
5.0 CUMULATIVE IMPACTS

This section compiles all of the cumulative impacts associated with the proposed project as identified in each of the environmental issue areas contained in Sections 4.1 through 4.13 of this Draft EIR.

5.1 INTRODUCTION

The California Environmental Quality Act (CEQA) requires that an environmental impact report (EIR) contain an assessment of the cumulative impacts that could be associated with the proposed project. According to State CEQA Guidelines Section 15130(a), "an EIR shall discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable." "'Cumulatively considerable' means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects" (CEQA Guidelines Section 15065(a)(3)). As defined by the Guidelines, "cumulative impacts" refers to two or more effects that, when combined, are considerable or which compound or increase other environmental impacts (CEQA Guidelines Section 15355). A cumulative impact occurs from:

...the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time. CEQA Guidelines Section 15355(b)

In addition, Section 15130(b) identifies that the following four elements are necessary for an adequate cumulative analysis:

- 1) *Either:*
 - (A) *A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency; or,*
 - (B) *A summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area wide conditions contributing to the cumulative impact. Any such planning document shall be referenced and made available to the public at a location specified by the lead agency.*
- 2) *A definition of the geographic scope of the area affected by the cumulative effect and a reasonable explanation for the geographic limitation used;*
- 3) *A summary of the expected environmental effects to be produced by those projects with specific reference to additional information stating where that information is available; and*
- 4) *A reasonable analysis of the cumulative impacts of the relevant projects. An EIR shall examine reasonable, feasible options for mitigating or avoiding the project's contribution to any significant cumulative effects.*

Where a lead agency is examining a project with an incremental effect that is not "cumulatively considerable," a lead agency need not consider that effect significant but shall briefly describe its basis for concluding that the incremental effect is not cumulatively considerable (CEQA Guidelines Section 15130(a)).

5.0 CUMULATIVE IMPACTS SUMMARY

5.2 CUMULATIVE SETTING

The City of Madera has used both the list and summary of projections approaches ((1)(A) and (1)(B) above) to consider cumulative impacts in this Draft EIR. The general cumulative setting conditions are based on the existing land use plans in the San Joaquin Valley region—specifically, the City of Madera, Madera County, Fresno County, and the cities of Chowchilla, Fresno, Clovis, and Merced—and on consideration of currently known large-scale proposed or approved development projects in the Planning Area and in the nearby region (see **Table 4.0-1** in Section 4.0 of this DEIR). A more detailed description of the general cumulative setting is contained in Section 4.0, Introduction to the Environmental Analysis and Assumptions Used.

Each technical section of the Draft EIR (Sections 4.1 through 4.13) identifies its own pertinent cumulative setting (i.e., in cases where the nature of the impact warrants adjustment of the setting, in which case the reason for any deviation in the cumulative setting is discussed) and includes a description of the geographic extent of the cumulative setting based on the characteristics of the environmental issue under consideration, as set forth in Section 15130(b) of the State CEQA Guidelines.

5.3 CUMULATIVE IMPACTS ANALYSIS

Identified below is a list of the cumulative impacts that could result from the implementation of the proposed General Plan Update and future development within the geographic extent of the cumulative setting for that environmental issue area. As described above, cumulative impacts are two or more effects that, when considered together, are considerable or compound other environmental effects. Each cumulative impact is determined to have one of the following levels of significance: less than significant, significant, or significant and unavoidable. The specific cumulative impacts for each environmental issue area are also identified and analyzed in the corresponding technical sections of the Draft EIR (Sections 4.1 through 4.13).

SECTION 4.1 LAND USE

Cumulative Land Use Impacts

Impact 4.1.3 When considered with existing, proposed, approved, and planned development in the region, implementation of the proposed City of Madera General Plan has the potential to further contribute to cumulative land use changes among local land use plans in the region, resulting in significant impacts to the physical environment. This is considered a **cumulatively considerable** and **significant and unavoidable impact** as a result of the increased environmental effects of growth beyond current adopted land use plans.

SECTION 4.2 AGRICULTURAL RESOURCES

Cumulative Impacts to Agricultural Resources

Impact 4.2.4 Implementation of the proposed General Plan Update along with regional and statewide growth would result in a substantial contribution to the conversion of important farmland and may increase agriculture/urban

interface conflicts. This is a **cumulatively considerable** and **significant and unavoidable** impact.

SECTION 4.3 POPULATION/HOUSING/EMPLOYMENT

Cumulative Population and Housing Increases

Impact 4.3.3 Subsequent land use activities associated with implementation of the proposed General Plan Update, in addition to existing, approved, proposed, and reasonably foreseeable development, could result in a cumulative increase in population and housing growth in the City of Madera as well as in the surrounding cities and counties, along with associated environmental impacts. This is considered a **cumulatively considerable** and a **significant and unavoidable** impact.

SECTION 4.4 HAZARDS AND HUMAN HEALTH

Cumulative Hazards and Health Impacts

Impact 4.4.5 Implementation of the proposed General Plan would not contribute to any regional cumulative hazards. This is considered a **less than cumulatively considerable** impact.

SECTION 4.5 TRANSPORTATION AND CIRCULATION

Cumulative Impacts to Study Roadway Segments and Freeway Segments

Impact 4.5.7 When considered with existing, proposed, approved, and planned development in the region, implementation of the proposed Madera General Plan Update has the potential to contribute to an increase in traffic volumes that would result in deficient level of service conditions under cumulative conditions (including buildout of the Planning Area). This is considered a **cumulatively considerable** and **significant and unavoidable** impact.

SECTION 4.6 AIR QUALITY

Cumulative Air Quality Impacts

Impact 4.6.5 Implementation of the proposed General Plan Update, in combination with cumulative development in the San Joaquin Valley Air Basin, would contribute to cumulative air quality impacts and could conflict with ozone and particulate matter attainment efforts. This is considered a **cumulatively considerable** and **significant and unavoidable** impact.

Substantial Increase in Greenhouse Gas Emissions and Environmental Effects

Impact 4.6.6 Implementation of the proposed General Plan Update could substantially increase emissions of CO₂e in over existing (2008) conditions that could result in environmental effects to the Planning Area. This impact is considered to be **cumulative considerable** and **significant and unavoidable** impact.

5.0 CUMULATIVE IMPACTS SUMMARY

Consistency with Greenhouse Gas Reduction Measures

Impact 4.6.7 Implementation of the proposed General Plan Update would implement a number of policies and action items that would complement and be consistent with the state's best practices measures for reducing GHG emissions. This impact is considered to be **less than cumulatively considerable**.

Expose Future Growth to Significant Effects of Climate Change

Impact 4.6.8 Implementation of the proposed General Plan update could expose planned growth in the City to environmental effects associated with climate change. This is considered to be **cumulatively less than significant** impact.

As identified above under the "Greenhouse and Climate Change Setting", there are potential physical environmental impacts associated with climate change that could impact the Planning Area and surrounding region, including:

- Changes to water supply
- Increased flooding
- Increased electricity generation
- Increased potential for air quality violations
- Impacts on ecosystems (biological resources)
- Changes to agriculture

While future growth may be exposed to adverse effects, the extent of those impacts is speculative in nature at a regional level. Further, there is no technical information on the localized extent of these environmental impacts from climate change. As a result, this issue is considered **less than significant**.

Mitigation Measures

None required.

SECTION 4.7 NOISE

Cumulative Noise

Impact 4.7.7 Implementation of the proposed General Plan Update along with potential development of the Planning Area could result in increased noise conflicts. This is considered a **cumulatively considerable** and a **significant and unavoidable** impact.

SECTION 4.8 GEOLOGY AND SOILS

Cumulative Seismic Hazards, Expansive Soils, and Soil Erosion Impacts

Impact 4.8.5 Implementation of the proposed General Plan Update, in combination with existing, planned, proposed, and reasonably foreseeable development, would not contribute to cumulative seismic hazards, expansive soils, and soil

erosion impacts given the area-specific nature of the impact. This is considered a **less than cumulatively considerable** impact.

SECTION 4.9 HYDROLOGY AND WATER QUALITY

Cumulative Water Quality Impacts

Impact 4.9.7 Implementation of the proposed General Plan, in combination with cumulative development in the watershed, would contribute to a cumulative degradation of water quality from construction activities and increased urban runoff. This is considered a **less than cumulatively considerable** impact.

Cumulative Flood Hazards

Impact 4.9.8 Implementation of the proposed General Plan would increase impervious surfaces and alter drainage conditions and rates in the Planning Area, which could contribute to cumulative flood conditions along the Fresno River and local waterways. This is considered a **less than cumulatively considerable** impact.

Cumulative Water Supply Impacts

Impact 4.9.9 Implementation of the proposed General Plan, in combination with cumulative development in the subbasin, would contribute to an increased demand for water supply, requiring increased groundwater production and potentially worsening the overdraft condition of the basin. This is considered a **cumulatively considerable** impact.

SECTION 4.10 BIOLOGICAL RESOURCES

Cumulative Biological Resource Impacts

Impact 4.10.6 When considered with existing, proposed, approved, and planned development in the region, implementation of the proposed City of Madera General Plan Update has the potential to further contribute to cumulative impacts to special-status species and habitat loss. This is considered a **cumulatively considerable** and **significant and unavoidable** impact.

SECTION 4.11 CULTURAL AND PALEONTOLOGICAL RESOURCES

Prehistoric Resources, Historic Resources, and Human Remains

Impact 4.11.3 Implementation of the proposed General Plan Update along with foreseeable development in the region could contribute to further disturbance of cultural resources (i.e., prehistoric sites, historic sites, and isolated artifacts and features) and human remains. However, policy provisions of the proposed General Plan Update would mitigate its contribution to potential impacts to these resources. This would be a **less than cumulatively considerable** impact.

5.0 CUMULATIVE IMPACTS SUMMARY

Paleontological Resources

Impact 4.11.4 Implementation of the General Plan Update along with other foreseeable development in the region could result in the disturbance of paleontological resources (i.e., fossils and fossil formations). However, policy provisions of the proposed General Plan Update would mitigate its contribution to potential impacts to these resources. This would be a **less than cumulatively considerable** impact.

SECTION 4.12 PUBLIC SERVICES AND UTILITIES

Cumulative Fire Protection and Emergency Medical Services

Impact 4.12.1.2 Implementation of the proposed General Plan Update and associated buildout would contribute to the cumulative demand for fire protection and emergency medical services. This is considered a **less than cumulatively considerable** impact.

Cumulative Law Enforcement Services

Impact 4.12.2.2 Implementation of the proposed General Plan Update and associated buildout would contribute to the cumulative demand for law enforcement services. This is considered a **less than cumulatively considerable** impact.

Cumulative Water Supply Infrastructure

Impact 4.12.3.2 Implementation of the proposed General Plan Update and associated buildout would contribute to the cumulative demand for water supply infrastructure. However, implementation of proposed General Plan Update policies would require that water supply infrastructure be provided at the same time as development. This is considered a **less than cumulatively considerable** impact.

Cumulative Wastewater Service

Impact 4.12.4.2 Implementation of the proposed General Plan Update and associated buildout would contribute to the cumulative demand for wastewater service. However, implementation of proposed General Plan Update policies would require that wastewater treatment and infrastructure capacity be provided at the same time as development. This is considered a **less than cumulatively considerable** impact.

Cumulative Solid Waste Impacts

Impact 4.12.5.2 Implementation of the proposed General Plan, along with potential development of the Planning Area, would result in cumulative increases in solid waste services. This is considered a **less than cumulatively considerable** impact.

Cumulative Public School Impacts

Impact 4.12.6.2 Implementation of the proposed General Plan, as well as potential development of the Planning Area, would result in cumulative public school impacts. These cumulative public school impacts are considered **less than cumulatively considerable**.

Cumulative Electrical, Natural Gas, and Other Infrastructure

Impact 4.12.7.2 Implementation of the proposed General Plan Update, as well as potential development in the region, would result in cumulative utility service impacts. The project's contribution would be **less than cumulatively considerable**.

Cumulative Park and Recreation Demands

Impact 4.12.8.2 Implementation of the proposed General Plan Update, along with potential development in the region, would result in cumulative park and recreation impacts. This impact would be **less than cumulatively considerable** given that the proposed General Plan Update and the Parks and Recreation Master Plan would provide improvement of park and recreation opportunities.

SECTION 4.13 VISUAL RESOURCES/LIGHT AND GLARE

Cumulative Impacts to Visual Resources

Impact 4.13.3 Implementation of the proposed General Plan along with potential development of the Planning Area would result in the further conversion of the region's rural landscape to residential, commercial, and other land uses. This would contribute to the alteration of the visual resources in the region. This is considered a **cumulatively considerable** impact.

